

A PLAY PROGRAM FOR A DEAF-BLIND BABY FROM INFANCY THROUGH THREE YEARS

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That the Deaf-Blind child needs exactly the same tender loving care, shelter, food and freedom to exercise and explore that all children need is a basic assumption.

The emphasis of this paper is intended to add just that little extra stimulus of physical activity for the development of musculature at as nearly a "normal rate" as possible.

A child who has no handicap is expected to develop within a wide range of "normal physical development". The child with the double handicap of deafness and blindness lacks his two most important distance senses to stimulate his physical activity.

An assumption that the musculature responds and grows with activity, providing the motor nerves and the central nervous system are unimpaired, has been demonstrated time and again in the re-education of muscles unused for months in casts. The use of systematic outside stimuli and passive exercises, before the muscle is capable of voluntary movement, leads to nerve stimulation and muscle growth through action.

The hope that a few ideas expressed in this paper may be a beginning toward helping some parents of a child with the dual handicap start their baby on the road to more nearly "normal motor development" is the intent.

Specific suggestions offered by the American Foundation for the Blind, Miss Robbins, Mr. Van Dijk, Dr. Farrell, Dr. Myklebust and Dr. B. Lowenfeld for Deaf-Blind children all call for mobility, activity, externalizing, educandum, leading out. Reid says:

"Severely handicapped children do not, like normal children, 'just grow'. ...(parents) they are the ones who must face the major responsibility for stimulating artificially the physical and emotional development of a child whose natural potentialities for development have been disastrously tampered with."

Although there are many organizations for counseling and assistance this does not take the responsibility from the parents. Help for them can come from many sources but the first person to whom they turn is their family doctor or pediatrician.

Dr. Ronald Illingworth of England has written a text for doctors in which he has tried to set forth the normal child as opposed to the abnormal. In the preface he remarks that a child can be far from "average" and still be perfectly "normal". The definition of "normal" is too difficult. A child with behavior problems can be perfectly normal, as Dr. Illingworth says, "...a child with no behaviour problems would be highly abnormal." His summary of the Yale Clinic, Gesell, et al, studies of normal development is the chart to be used as a basis for the program which is to follow.

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Before becoming too specific concerning exercise, let us consider some of the writings on "development". Gesell and Amatruda in speaking of normal children say,

"It usually serves no good purpose to tell a mother exactly how she should do a thing. It is more important to tell her how to approach the problem and how to look at it. Even the most exact advice fits a case for a short time only. The child is changing; so the problem changes. Parent and physician alike must recognize these ever changing developmental factors." "The ways of natural growth are truly devious, but in the normal infant we can place much confidence in the surety of these ways. Progressive neuro-motor organization underlies the patterning of all forms of behavior. We do not teach a child to crawl, creep, stand or walk. We give him opportunity. He does his own growing."

Illingworth recognizes another variation and speaks of the personality of a child bearing on the age at which he learns skills, because of independence and desire to practice new skills.

"The great part played by personality in the later progress of the child is responsible for the comparative failure of many efforts to predict a child's future progress."

Although these Deaf-Blind babies may lack outside stimuli, each is an individual. Do we know what type person is locked in this brain? Or do we believe personality varies with the interaction between the individual and environment only?

The consensus of opinion concerning motor development is that when the child is mature enough and ready to learn a skill, neuro-muscularly ready, the moment should be seized. Waiting until Mother thinks it is time may be passing "the" time. An example of the child chewing on "things" can be used as an early signal for starting solid foods.

All agree that the motor developmental progress is from head down, cephalocaudal, head-neck muscles, spinal muscles, arms and hands, then legs. Our development is continuous from conception to maturity, when, as the saying goes, we all begin to die a little. Performance and development depend on the nervous system maturing. Too early attempts to press for skills may lead to failure and conversely if "the" moment is passed the skill still may be learned rapidly later due to the nerve maturity. An example of this could be the child who suddenly "catches on" to something which had been attempted earlier, too early.

Gesell and Ilg state this developmental progress concisely:

"The organization of behavior begins long before birth and the general direction of this organization is from head to foot, from proximal to distal segments. Lips and tongue lead, ears and eye muscles follow, then neck, shoulders, arms, hands, fingers, trunk, legs, and feet.

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"the trends and sequences of this fundamental development may be summed up tersely: In the first quarter of the first year the infant gains control of his twelve oculomotor muscles. In the second quarter (16-28 weeks) he gains command of the muscles which support his head and move his arms. He reaches out for things. In the third quarter (28-40) he gains command of his trunk and hands. He sits. He grasps, transfers and manipulates objects. In the fourth quarter (40-52 weeks) he extends command to his legs and feet; to his forefinger and thumbs. He pokes and plucks. By the end of the second year he walks and runs; articulates words and phrases; acquires bowel and bladder control; attains a rudimentary sense of personal identity and of personal possession. At three years he speaks. He is no longer an infant."

Two pamphlets which might be difficult for parents to obtain: The Pre-School Deaf-Blind Child from American Foundation for the Blind and Myklebust's The Deaf-Blind Child are full of practical suggestions and reassuring thoughts. Myklebust states, "The Deaf-Blind child who is otherwise normal can and does acquire language." Differentiating between language and speech he illustrates that a coat may mean outdoors, a child may move to the door to go out, and through the same non-verbal symbols a table and chair may mean that food is coming. Using a local example, a seat belt may mean - we are going for a ride, fasten it. The child knew from experience.

"The principle of experience first and then the symbol (word) is basic for all language training". "Motor activities stimulate learning and bring about pleasurable experiences ..." and with some success a reward, cookie, candy, hug or kiss. This experiential training without mobility would be difficult to accomplish.

Two other pamphlets although mainly for normal children have helped parents for years. Infant Care (Children's Bureau Publication No. 8, 1963, U.S. Department of Health, Education, and Welfare, U.S. Government Printing Office, Washington, D.C., 20¢) and Your Child from 1 to 6 Publication No. 30. In the latter, the section on handicapped children is carefully written in lay language.

Total development, both gross and fine motor development, needs to be stimulated or as Mescheryakov asks,

"Where to begin? What is the foundation upon which the mighty building of human mentality is to be subsequently built?"

In answer he states,

"The first stage of development consists in forming and accumulating direct images of objects surrounding the child and developing habits of human conduct; above all, the habits of self-servicing ... the child always has elementary physical necessities...the child should be taught to satisfy these necessities in the human way. This initial humanizing of the child is the actual foundation upon which the entire majestic building of human mentality, including speech and all kinds of abstract and generalized thinking will subsequently be built."

His description of leading a child through putting on shoes is detailed and closes with, "...thousands of such habits to be taught to a child...a tremendous amount of labour is to be put into this undertaking."

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To refer back to Your Child from 1 to 6, a paragraph for the parents of a handicapped child.

"Rarely does a child who is handicapped need, or want, the center of the stage. All family life cannot revolve around his differences. From time to time, of course, any one of the children may need concentrated care and other things have to take a back seat temporarily. Long range plans, however, must take into account the individual needs of all members of the family, including your own."

To the parents of an infant about whom the diagnosis of Deaf-Blind has even been mentioned, the problems must seem insurmountable. Dr. Farrell gives historical assurance:

"As far back as the 17th century, Diderot claimed that even the Deaf-Blind could be taught through touch by patient and insistent connection of tangible signs and objects."

We know that a diagnosis by a competent medical team of pediatrician, otolaryngologist, ophthalmologist, or others working with them cannot always be certain at birth, nor for that matter for some time afterward. To wait while examinations, diagnoses, and prognoses are made and do nothing about developmental training can waste precious time. The rapid growth, physical and neural are continuing. As Gesell says,

"The response to an examination is merely an indicator. The response to training is the acid test."

Harriet Totman has put it simply, pediatricians agree,

"The first three or four months physical development comes first. Treat him like an ordinary baby, well fed, clean, sleeping like a healthy puppy."

But like a puppy he needs exercise. Dr. E. J. Schwartz has an interesting theory,

"... our babies during the first seven to ten days cannot sense or react to the things around them and they do not walk for several months. Yet during infancy there is still the biological need for exercise and acclimation with the world, so the exercise period must take a different form. We believe that the fussy period fills this need for the baby. Moreover, since this phenomenon has been going on in all babies for centuries it is difficult to consider it abnormal behavior."

Your pediatrician will warn of any physical defects such as a suspicious heart beat. Any warnings he gives should be followed carefully. He will also want careful observations from you about the baby at home each time you see him. This is especially true if there is reason to suspect any such dual handicap. Therefore, as Edith Speer says,

"While your child is a very small baby...follow your doctor's instructions about food, sleeping, etc. and give yourself time to become adjusted..."

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Rest assured in this statement by Murray,

"Modern researchers are unanimous in stating that reasonably well adjusted parents in their own homes are the best teachers yet invented for furthering the development of pre-school children." "Normal walkers vary from nine to eighteen months. There is nothing wrong with either. Don't expect "Norms". Expect the child to develop at his own rate."

With all of the foregoing in mind, let us proceed to plan for nearly normal motor development through directed play, toys and equipment.

Even in this infancy there are things which parents can do to help. During the normal processes of feeding, bathing and changing, your baby can become aware of your touch, smell, taste, perhaps your looks and voice. You can take advantage of his grasp reflex to exercise his arms and his walk reflex by placing his feet against something solid while you hold him. These reflexes soon disappear, use them while they are present.

Changing and bathing are both good times to push or pull gently, passive exercise for both arms and legs. Not that he won't start to kick soon and you'll wish he'd lie still while you bathe and change him. When he is sleeping he'll be perfectly passive but do give him room to move an arm or later a leg, when he wakens fussy for feeding. He hasn't mastered turning over yet so it is up to you to see that he is not always in the same position. He probably will lie with his head turned to one side either on his face or back. Instead of both legs curled under his trunk, by four weeks he may extend one leg and when on his stomach get his chin just off the mattress.

By eight weeks he'll be beginning to lift his head when on his stomach and by sixteen weeks he'll be able to get his forearms under him and part of his chest up. Watch his head and neck when you pick him up from his stomach. By eight weeks he should hold it almost in line and by three months he should really lift it. He'll also want to kick both on his back and stomach. This lifting of both legs and head while on his stomach as though he were swimming is a strong back and thigh developer. Encourage it by touching him gently under the chin and ankles. This exercise is very difficult for us, actually it is one of the famous Kraus-Weber physical fitness tests. You can stimulate all of this natural movement both in the bath, on the dressing table, and in the crib, or during a "play period" by touching or lifting lightly a leg or his chin.

He'll perhaps begin to push himself up on both hands, getting his chest and abdomen off the flat by six months and a bit later on one hand. Without some stimulus to "look for" or reach toward or a sound to search out this may not come as naturally, so draw him into it by touch or food. A crawl to you or for a cookie in which he pulls himself forward with his hands while on his tummy precedes a real creep where the legs begin to draw in under the abdomen to push against the floor. Eventually he'll be up on all fours, perhaps by one year.

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Remember, there are no definite times for each stage but he may, or may not, really creep by ten or eleven months. Get down on the floor with him, give him some reason to first crawl, and then creep so that he may get up on all fours because his back and legs have had the exercise they need.

When he's on his back he will at first not be able to control his head at all; it drops back as you pick him up. Naturally we support it. However, watch the progress; by three months he may be almost able to hold it in line, by five months he may hold it steady. Let him, and when you pick him up by his hands by six months, hopefully, his head will start to lift with your first lifting motion. His legs will be kicking by the time he is three months old. He has had a reciprocal kick reflex which you can stimulate by touch much earlier for exercise. His side and central abdominal muscles are beginning to develop to let him draw his knees up and out to the side. You can passively put his legs in this position many times in changing him. By five or six months he has rolled his feet up perhaps as far as his mouth. Help his hands discover his feet to pull down to mouth, delicious chewing!

Continue to help him by passively playing with him and repeating these "leg exercises" which really are partly abdominal. As a counterbalance to the lifted legs he will also begin lifting his head thus developing the holding muscles of his chest and neck.

During all this time he has been developing back muscles which have allowed him to progress from a completely rounded back to momentary holding up of his head by one month; next through less upper back rounding; then lower back straightening; and finally to a head erect position propping himself in a sitting position with both hands and his legs wide flexed. This may come by six or seven months. You can help by tempting him to hold his head up by touch under his chin. By eight months he should balance in a sitting position alone. How to help him do this? Propping him up with pillows, sitting him against you on a sofa, in his own chair - in succession. The more the back works the stronger those muscles will become, even if the time is brief each try. Give him a reason for reaching. You, food, or a favorite toy can tempt him. He'll use his arms straight from the shoulder first, probably both at once. Watch to see if there is a tendency to reach with the arm he used to turn his face toward when he was a wee baby. Some pediatricians believe that this "tonic neck reflex" noted in babies when flat on their backs is an indication or sign of "handedness. Nothing is certain about this, but it's just interesting to observe.

You can lift his arms for him while he is sitting. During play time pull his arms outward and slightly back to sideways as well as forward. Do not get into the habit of always lifting him the same way, either by pulling his hands or by putting your hand under him. Use his arm strength as it grows, let him pull against your pull. While he is sitting, sit beside him and tempt him into twisting toward you. He should be able to twist his trunk, following his head by about ten months.

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How do we help him stand? First, if his feet are on a flat surface and they are flat to the surface he has a built in walk reflex. He'll push and you'll encourage it by holding him so he can push against your legs, the crib, the bathinette, the floor. The more he does this the more his legs will develop. By three or four months he'll take some weight on his feet even though he still sags. By the time he's six months old he'll almost straighten his legs and with your support around his chest take most of his weight. The next step is full support of himself with straightened legs and you holding him for balance. This is not standing, but very close to it, and repeated times of standing position with little or no weight on his legs while he pushes at the surface is strengthening those legs.

Now is the time when he's going to need some place to try it out. He'll begin to want to climb to his feet against you in your lap, as you sit beside him on the bed or floor. He may try in his crib or pen by holding on to the bars. Help him, encourage him grabbing for balance against you, let him climb up. He might reach for your face, beads, glasses or mouth. You can tease him up to standing in his pen with food perhaps. By ten months he may have succeeded in standing in his pen by holding on, or pulling up against a sofa or big chair. Give him a place to try out the side step process, along a sofa, in his pen or crib holding the rail as you tease him on.

Remember, "normal" children may walk anywhere from 9-18 months. Don't rush walking but when he moves his feet while standing holding on to his crib rail, maybe at one year, you two parents can start helping by holding both hands. Let him move between you, let him go from one to the other with continuous contact, eventually by holding one until he touches the other hand. He'll probably spraddle his feet - he needs a wide base - or he may be a tiptoer. As he gains balance through the wide use of his arms, he can be tempted to walk to you or sister, brother, or daddy. There are reins which are usually used to keep youngsters from running away, use them in reverse to lead him to you. He'll collapse many times before he masters standing alone and walking. It may seem a long time. Don't hurry, just play with him any time after he has once stood by himself by pulling himself up on his pen or crib. Don't leave him sitting, encourage him to stand even momentarily then sit whenever he wants. Keep him stimulated to stand and walk once he has started.

This same warning applies to every skill he is to learn. See that you and he practice it and that he continues to do things he has learned. Remember, however, all these ages and stages are very flexible. There is no set time when a baby does anything. Dr. Mykelbust says all one can do is to take a good statement of "normal" development and use it as a frame of reference.

Although reaching has been mentioned, he won't reach for anything without a stimulus. A breast fed baby will flail his arms and grab in eagerness for food. Let him reach for and clutch his bottle, he may end up grabbing at his spoon too much but the grab and reach is worth the spills. Tempt him to reach with noisy bright crib toys presented by you and perhaps left where his flailing arms may hit them to investigate.

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He can begin to grasp, flathanded by six months, maybe shift something from hand to hand by seven months. When he is sitting in his chair (a combination table and seat is good, baby=tenda, because he's secure) something hitched, bright or noisy, on his table or chair may stimulate him to investigate it by mouthing, or if he chances to bang it against the table. Play with him with these toys and leave some near, blocks, rattles, solid balls, squeezey, rough dimply surface ones or smooth ones. ✓

Mention is made of bright or noisy toys for if there is any vision or hearing every stimulus should be used. Your voice, your tone, your gestures all need to be enticing, relaxed, loving and rewarding. A hug, a kiss, a pat! Some "no" signal needs to be developed which he will understand, gesture or speech. ✓

What exercises have we done? Nothing formal, but push, pull, swing his arms, his legs, encourage his repetition of any response to you and your touch. The use of food as a stimulus or your teasing him along. Pull him up to sit, help him stay up with a pillow, a slight touch, a placement of his legs for a base. We've encouraged his swimming on his tummy on bathinette, bed or floor; help him draw his legs up when on his back. When he once stood you gave him a place to do it also walking help, with you or alone, indoors or out in his pen.

Don't hamper his free movements when he wakes from a nap by too tight bedclothes. Let him play on the floor where you can watch him, or on a big bed. Swim him in his bath from the earliest, play with the water with him but keep a hand on the slippery eel. Later he'll enjoy toys in the tub and swimming if his early experiences with water were fun. Most children love their bath.

After grasping, sitting, standing and walking the phenomenal rate of motor growth is not so astounding. You will have followed your doctor's suggestions about food. Keep it calm, don't fuss over it. Chewing may have been a problem. Perhaps your hand on his jaw with motion, or his hand on your jaw while you chew might help. At any rate solid food becomes necessary and your doctor can help you with ideas. Holding his own spoon or cup is a major achievement. You lead into it with your hand on his or his hand on yours as you go through the motions together. The food is the reinforcement - the reason for it all.

His time in his pen needs to be where you can see him and he knows you are about. In his crib he's expected to sleep. He may fall asleep in his pen but not undressed and tucked in for sleep. He may wake and play in his crib. Fundamentally though they are places for two different activities.

Play equipment such as a doorway swing-gym in which he may bounce as you watch and encourage is most useful. His feet should touch the floor, later he can use the trapeze bar and rings that are a part of this. A Taylor Tot (kiddie kar) he can sit in and on is a good foot, leg, back and abdomen strengthener. He will also learn to use his arms on this as he progresses. A stroller which his feet can push on follows his rides in his carriage, first flat and then sitting up.

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During his second year the mastery of walking, picking up his feet for stairs, up which he creeps (maybe) first, motions to help dress himself, a very probable undressing binge, gestures and vocalizations for attention, self feeding, running, jumping, thrusting even throwing a toy or a ball away, picking up objects by squatting or bending down, pulling or pushing a toy as he walks all may begin. He may also enjoy cardboard boxes or pails into which he can put blocks or toys and dump them all out again.

Let him try climbing up on blocks and stepping off or jumping with you to hold his hands at first. Real stairs are more fun, stay near while he tries it and urge and help toward a two feet on one step climb. The blocks are preparation. Any attempts to help in dressing, welcome and aid and abet, start his arm through a sleeve and wait - he may finish. He may shock the neighbors someday by practicing undressing most anywhere. They'll not mind, don't you, unless it's too cold out. Keep a keen eye and ear out for any gesture which seems to indicate a need for toileting. He may be trying to tell you. It might take the form of a vocalization or a cry. A complete stillness is often a signal. When it comes to eating time, work at his helping you with the spoon and let him try his cup. He should be able to grasp well enough to learn to hold a partially filled spoon or cup. When it comes to running it will probably be a fast stiff legged walk with you holding on at first. Next he may run off balance to your fingertips lead.

Let him be free in his pen with toys (hitched) to finger and mouth. He may stand, sit, cruise around holding on, throw his toys, ignore them unless you present them, or mouth them only.

His bath and playtimes are exercise times for you and him. He may resist face washing but love the rest of his swim. Leg kicking and arm movements should be encouraged in the water if they are not spontaneous. In his second summer be sure to take him in swimming with you. If he's old enough by his first summer start then. With you, he'll feel secure. Don't do much except accustom him to the water. Don't ask anything of him. Above all, do not let him be frightened by a wave splash in the face. His adaptation to real swimming from the bath should be easy if the baths have been carefully maneuvered. His sense of partially free floating while securely held by you or daddy is a new sensation with so much water under him.

Set aside at least three times for exercise. One with you in the morning after a nap or bath depending on your daily schedule. One after his afternoon rest and one with daddy after his supper but before sleep. This last can't be too near sleep time or there'll be too much excitement. Work on his grasping articles and reaching for you, food, or toys. His arms need to pull against your pull. He needs to push blocks, small chairs, toys, or pull any of these. He needs small articles to pick up. Old pots and pans or lids with handles may be shiny and noisy and he can grip them. Spoons can be used for digging in the sandbox. He can be shown how with your hand on his. He'll probably eat sand or he may reject the rough feel. Slant a wide sturdy plank up on a block and let him walk up it with you holding his hand and learn to jump off.

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Take him for walks about the house and yard on his own two feet. Follow familiar paths to play areas, doors, windows, and near big objects so that he begins to know them. Vary your courses after awhile. In a room let him learn to find his way about by recognizing big objects. Keep the arrangement the same so that he can. Let his room have a large clear area in which he can roam. When he is in his pen he'll still want to know you are about. Don't leave him without a good-bye signal. His crib still means sleep but he may wake before you expect and play. Listen for vocalizing for this is a time when children often amuse themselves in this way. If he does it, it is a very good thing to report to your pediatrician.

Let him learn to walk outdoors without holding on to you by teasing him to you by fingertip touch on rough ground as well as on a flat surface. He'll have to reach, give a big rewarding hug and a kiss. He can learn stair climbing and chair sitting by using big blocks to climb up on with your help. His feet may have to be placed but with you holding him he'll be secure. By taking both of his hands as he is beside you, reaching behind him for the far hand, you may run with him or even initiate a skipping rhythm, maybe a gallop.

A backyard play gym can follow the doorway swing, trapeze, and rings. He can learn to hold on while he is in a swing, to grasp the rings or bar and pull up. A sizable swing in which you can swing while holding him is a good introduction to the big motion. Perhaps there is one in the neighborhood. For his freedom, a fenced large area which includes the sandbox but is away from the swings lets him be free. Some swings are the push type with a foot rest and handles to grip. On these he can both push with his feet and push-pull with his arms. He may also feel more secure with his feet on something. If you have an old tire in the yard, or two, he can climb in and out and sit on it, play in it and scramble over it.

There is an ulterior motive to backyard play equipment. It is child bait for his "normal" neighbors. He'll play beside them not with them at two or even later but the more children he "knows" and who know him the better. It also gets both him and you and your neighbors outdoors and together. A baby-sized portable trampoline with you holding his hands is a grand jump, bounce and fall play. It can be used in or outdoors. Outdoors it can be a neighborhood "attractive nuisance hazard" and needs supervision.

Daddy can take over the rough and tumble play of learning to roll over, somersault, and a beginning head stand starting with both feet on terra firma. In fact whenever daddy is at home during an appropriate play time he can take over any and all of the play. Older sisters and brothers may be a real help too but not at their expense too often. Family members all need to know and enjoy baby and he needs to know and enjoy them. It isn't all mother's job. Baby can piggyback, ride horse with a hand to steady him with daddy. He should be able to learn to climb up for both of these with a little help, especially if you've had him climbing on furniture such as a big sofa or overstuffed chair or you. Schedules are made for breaking and if daddy's times at home when he's awake are infrequent the schedule can be changed or broken. You'll be able to work this out between you.

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During his third year he's going to need to continue his upper body strengthening and learn to carry things while he walks. His gym could have a balance beam near its base on which you help him walk with his toes straight ahead. His toys could be in a box or a basket for him to carry and find, and learn to return to. He can also use a wagon for a toy carrier, pushing or pulling it as he sees fit after you show him both. He's going to sleep less but you'll have to plan a routine that fits your day. He should get enough leg development from walking, running with you, jumping and stair climbing in order to be able to scoot around on his kiddie kar with flat feet pushing on the floor. A small tricycle for pedaling and balance will take guidance on your part but it is a masterly achievement.

Very little has been said about hand coordination but small enough blocks for him to handle, nesting cups or boxes, squeeze toys, clay, spoons, drums to bang with sticks, old spools, solid and soft balls, music boxes will all make him work his fingers. You may start him off with a new toy but his own investigations will lead him to novel uses. Smooth cut juice cans, old smooth wooden boxes, big cardboard cartons, almost any household can supply improvised toys which are fun. He can crawl into a big enough carton so there should be no way to close it. Along with all this, attractive bright colored or shiny objects or noisy toys should be used to stimulate any visual or auditory clues.

You and daddy and the family should be most important to him. He should begin to give you some very meaningful clues as to his desires by now. Observe closely and learn his language.

Dr. Myklebust suggests that "training should start very early, possibly as young as three years."

If by the time your youngster is four or five he can manage a tricycle alone, climbs stairs one foot per stair alone, jump, run, feed himself, his training has been going on for some time with you.

Remember, for a little child -- parents are the best teachers. You will have had to lead him into everything he has learned to do. His handicaps may have made him as little as a few months or as much as a year or two behind this frame of reference. Every skill he has learned is one more success for him and for you.

Dr. Mikell, a pediatrician gives six warnings:

1. Be patient, don't expect too much too soon or too rapidly.
2. Do not overprotect.
3. Plan to allow time to help. It takes time for him to develop a skill.
4. Be ready to help if he is discouraged, but do not interrupt if he is proceeding under his own steam.
5. There will be periods of lack of progress. Don't let any annoyance come through to him.
6. Give him experiences. Are there enough real experiences so that he is in contact with the world?"

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A summary of Dr. Illingworth's chart of Normal Development for a child from one through three follows. There is one note in particular to remember, if your baby was premature take this into account when figuring how many weeks old he is. If he was three weeks premature, he is only one week old four weeks after his birth. The same thinking follows for a baby who was born after an average time of forty weeks. He'd be considered six weeks old by some pediatricians when he had been born only two weeks ago following a term of forty four weeks. Premature babies need to have this extra time figured into any estimation of their development. Average full term time does not mean it is without normal exceptions however. Remember, all times given are flexible.

Since we have been concerned with motor development this will be an abbreviated form of Dr. Illingworth's chart.

- "Age: 4 weeks Gross motor development and manipulation
 Held in sitting position - may hold head up momentarily.
 Held in prone position with hand under abdomen--momentary tensing of neck muscles should be noted.
 Prone - momentarily holds chin off couch.
 Pull to sit - almost complete head lag.
- 6 weeks Held in prone position with hand under abdomen - head momentarily in line with body.
 Prone - readily lifts chin off couch so face is at 45 degree angle to couch
 Pull to sit - from supine, head lag not quite complete.
- 8 weeks Held in sitting position - head is held up but bobs forward.
 Held in prone position with one hand under abdomen - holds head up in line with body.
 Prone - head no longer mainly turned to one side, often lifts chin off couch so face is at 45 degree angle to couch.
 Held in standing position - is able to hold head up more than moment.
- 12 weeks Prone - holds chin and shoulders off couch, bears weight on forearms.
 Pull to sit from supine - only moderate head lag.
 Held prone, hand under abdomen - head well up beyond plane of body.
 Grasp reflex gone, holds rattle voluntarily when it is presented, retains it more than a moment.
 Hands open, not fisted as before.
- 16 weeks Held in sit - head up well but if you move his trunk his head wobbles.
 Curvature of back now in lower back only not entire length of spine.
 Prone - holds head and chest off couch, weight on forearms.
 Pull to sit - only slight head lag at start.
 Supine - head no longer turned to one side.
 Hands come together, he plays with his hands, plays with rattle when it is placed in his hand, shakes it.
- 20 weeks Full head control, when in sitting position head does not wobble when his body is shaken by you, no head lag on a pull to sit.

A PLAY PROGRAM FOR A DEAF-BLIND BABY FROM INFANCY THROUGH THREE YEARS OLD

- Grasps objects deliberately (not reflex) plays with toys, splashes in bath, crumples paper. (Watch the quality of his grasp, he'll not bring forefinger and thumb together to pick up string before nine months at least.)
- 24 weeks Prone - weight borne on hands, straight arms, chest and upper abdomen off couch.
Pull to sit - (may) lift hands to be pulled up, head lifts at start.
Sits supported in chair for a few minutes, rolls from supine to prone.
Held standing - supports a large fraction of his weight.
Grasps his feet, holds a bottle, may take toes to mouth.
If holding one toy will drop it when given another.
- 28 weeks Prone, bears weight on one hand
Sits with hands forward for support, rolls from supine to prone
Standing, can maintain extended hips and knees for a short time when supported, bounces with pleasure while before he sags.
Supine - spontaneously lifts head off couch.
Holds first toy when presented with a second, transfers objects hand to hand.
Bangs objects on table, reaches with one hand instead of two, takes all objects to his mouth, may feed self a cookie, loves to play with paper.
- 32 weeks Readily bears whole weight on legs when supported. Sits for a few moments unsupported.
- 36 weeks Stands holding on to furniture. Sits steadily for about 10 min.
Leans forward and recovers balance but can not lean sideways, seated.
Prone - in trying to crawl may move backward instead of forward.
May progress by rolling.
Can pick up small object such as a raisin between finger and thumb.
May bring together two small blocks held in two hands.
- 40 weeks Pulls self to standing position and sitting position.
Goes forward from sitting to prone and from prone to sit.
Sits steadily, infrequent accidents of falling over.
Crawls forward pulling with hands abdomen on couch.
May poke at things with forefinger. Has begun to release objects deliberately instead of accidentally as before.
- 44 weeks Prone - creeps, abdomen off couch, knees under abdomen.
When standing holding on he may lift and replace one foot.
Sitting, can lean sideways.
Will place an object in your hand but not release it.
- 48 weeks Walks sideways holding on to furniture and with two hands held.
Sitting, can turn around to pick up object.
Gives and takes toys in play, releasing object into your hand.
May roll a ball to you.
- 1 year Walks with one hand held, walks on all fours, may shuffle on hands and buttocks.
- 13 months Stands alone for a moment. Can hold two small cubes in one hand.
May hold and mark with pencil.

A PLAY PROGRAM FOR A DEAF-BLIND BABY FROM INFANCY THROUGH THREE YEARS OLD

- 15 months Can get into standing position without support.
 Creeps up stairs.
 Walks without help with a broad base, high stepping gait and steps of unequal length and direction. (From now on watch the maturity of his gait).
 Some accuracy of release in hands, may put one block on another.
 Throws objects to floor. May take off shoes.
- 18 months Climb stairs unaided holding rail
 Seldom falls, runs, jumps. When walking no longer has high stepping broad base.
 Seats self in chair, pulls toy as he walks, may throw a ball without falling after it.
 Manages spoon, can take off socks or mittens, maybe unzip jacket.
- 21 months Can be taught to walk backward. Picks up object from floor without falling. Walks upstairs two feet per step.
- 2 years Goes up and down stairs alone, two feet per step.
 Turns doorknob, unscrews lids. Washes and dries hands.
 Can put on shoes, socks and pants.
- 2½ years Jumps with both feet. Walks on tiptoe, when asked (maybe)
 Grip on pencil is the hand not a fist. Can mark with pencil in a horizontal direction instead of vertical as before.
- 3 years Goes up stairs one foot per step, down two feet per step, by four may go down one foot per step. Can jump off bottom step
 Stands on one foot for a few seconds. Learns to ride a tricycle.
 Can learn to dress self with help, can learn to manage buttons.
 Carries things well.

The above listings from the chart are not all inclusive. Many of the criteria have definite visual or auditory components. The sections headed "General understanding", "Speech", "Sphincter Control", and "General" have not been listed. For example, there is no mention of sphincter control until 15 months, pointing at objects infers visual observation, building a tower of blocks involves not only the release needed but vision to find the blocks unless they are presented nearby, beginning to follow a moving person with his eyes at 6 weeks or turning his head for a sound at 16 weeks are all listed.

For a complete chart of this type which is all inclusive you may refer to the original Gesell studies listed from which Dr. Illingworth compiled his summary.